

Stress, Burnout and Health in a Sample of Spanish Teachers

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ABSTRACT

The current educational crisis in different countries shows very different connotations of an economic, sociological, psychological and educational level that are having an impact on the teacher and their pedagogical relationship^[30]. Although in terms of research, both stress, Burnout and health of teachers are the most productive areas in Psychology, the causes, effects, prevalence and incidence, being such a situation more evident in our country, where research is limited. The aim of this work was to analyze the stress level of teachers and their relationship with Burnout and health, taking into account sex, age and years of service, in a sample of Spanish teachers. Results show a significant relationship between the stress level of teachers, Burnout and health status with a differential profile according to age, sex and years of service.

Keywords: Stress; Burnout; Health; Teacher; Education

1. Introduction

The current crisis of education, in the different countries, presents very different manifestations of economic, sociological, psychological and pedagogical order that are being passed on to teachers and their pedagogical relation^[30]. Job losses, absenteeism and professional dissatisfaction are aspects that have been negatively reflected in teaching^[13,27]. Depression and anxiety are very frequent psycho-diagnoses among teachers^[29].

The number of teachers affected is manifestly important for further research into the genesis, dynamics and approach of the problem, since we must not forget that teachers are the first to be harmed, but they are not the only ones, because through them they are affected to a large number of students, the work climate of the teaching group and, quite frequently, the family sphere of the teacher^[13,19].

The wear, physical and mental, caused by the permanent demands of the teaching profession, certainly bring impacts, in terms of welfare and health, for most professionals in the category.

As we know the professional pressures, the increase of responsibilities, the constant and very rapid alterations, associated with professional performance, can subject the individual to a great psychophysical overload that forces the organism to start up its biological and physiological mechanisms for adaptation and defense of aggressions. If these responses are not adequate and the demands of the environment are excessive, intense, prolonged over time and exceed the ability of resistance and adaptation of the subject, or perceived as such, it enters distress^[28,31].

Although elevated levels of stress can emerge in the normal context of everyday life, it is increasingly accepted that this problem tends to be more acute when associated with the performance of a professional activity, so that the designation of stress (e.g in the case of women, in the case of women, in the case of women). Let us say that occupational stress is the result of a set of emotional, cognitive, physiological and behavioral reactions to certain adverse or perceived aspects of the organization or work context in the performance of a given function.

In an initial phase, research in this area preferentially considered individuals as passive subjects who had to make personal adaptations to the structural limitations imposed by organizations, that is, occupational stress was studied as a problem of the person in his adjustment. to the working environment. This vision implied a certain form of intervention and prevention of stress. However, more recent studies showed that not only personal characteristics and type of work

are relevant, but also the structural forces that make up the profession, the social organization of labor institutions and economic development^[7]. For these reasons, some years ago, this part, like stress in general, occupational stress has also been analyzed from a transactional perspective^[15,17,26].

In this line, in recent decades, the consequences of occupational stress have been the subject of study and of growing interest to determine their negative impact on the health and well-being of people-workers. Numerous studies identify occupational stress as an important risk factor in the onset of cardiovascular diseases, psychosomatic problems such as migraines, headaches or mental illnesses such as Burnout and anxiety disorders among others. At the same time, it is associated with several organizational problems such as the lack of satisfaction of the working class, absenteeism and low productivity^[1,5,15,27,29,30].

In general, from the conceptual point of view, the phenomenon of Burnout derived from the performance of the teaching activity, has been preferably framed in transactional models^[10,12,22], and can be defined as a response to prolonged or chronic professional stress that can occur when the confrontation strategies used by the teacher become dysfunctional and inadequate^[29,34]. Consequently, the somatic and psychological problems associated with this dysfunction significantly affect the professional performance and affect the relationship with the students, the quality of teaching and the organization as well as the personal balance of the teacher^[23,33].

Stress in the teaching profession is framed in the relationship of teachers with the various aspects inherent to the performance of the function^[26]. In most of the times, the experience of tension experienced by the teacher in the performance of his function is understood as a threat to his physical and / or mental well-being, his self-esteem and personal value, which may lead to the development of negative feelings, such as the dissatisfaction and demotivation that, in practice, are manifested by the decrease in the quality of pedagogical practices, professional efficiency and consequently, the performance of students^[13,15]. Therefore, it is important to determine the causes or sources of this teacher malaise, caused by stress.

Regarding the relationship between Burnout and other variables such as sex and age, a study conducted by^[36], composed of a sample of 1,390 Dutch teachers, found individual differences of Burnout in relation to sex. Having the teachers presented greater possibilities of suffering from Burnout than women. Regarding age, teachers aged 45 to 50 years have the highest levels of Burnout, especially at the level of emotional exhaustion^[12].

^[3]through a comparative study of Burnout among professors and doctors of the city of Durango, found no significant differences in any of the four variables studied (sex, age, number of children and years of work).

In a longitudinal study^[21], with banking employees and teachers of primary and secondary education (N = 675, and N = 555), it was concluded that firstly, the results confirmed the positive relationship between Stressors and Burnout found in the literature and confirm the use of the measure of the specific work stress of teachers for the study of Burnout in this profession; second, the data corroborate the consistency in the literature on Burnout, of higher levels of depersonalization among male teachers; and third, they indicate another significant difference: women report higher levels of Burnout than men. This difference is not a consistent result in the literature, but some empirical studies also found it^[20].

In^[13], when studying the experience of Burnout about sex, they tell us that women assume higher levels of emotional exhaustion, while men show a higher prevalence of depersonalization. Regarding the variables age and years of service, they did not find significant relationships with this syndrome.

In^[26], it did not find significant inferences between sexes and, in average terms, both sexes presented values very close to the exception of the depersonalization, in which the women had higher values.

These investigators also found no significant inferences between the dimensions of Burnout, age, and years of service.

In this sense, most of the investigations show contradictory results.

The present study

Although, in terms of research, stress^[1,4-6,32], Burnout^[10,12,23,29,34] and health^[1,13,17,38], of teachers are the most productive areas in Psychology, we do not know enough about the causes, the effects, the prevalence and incidence, being such a situation more evident in our country, where research is still limited.

Therefore, the main objective of this research was to analyze the stress level of the teaching class and its relationship with Burnout and with health in general, considering sex, age and years of service.

Based on this main objective, the following specific objectives were derived: a) identify the levels of perceived stress and sources of stress for teachers; b) identify the Burnout levels in the teachers and c) know the general health status of the teachers.

Based on prior empirical evidence, the following hypotheses are stated: 1) There are no statistically significant differences in the amount of perceived stress, according to sex, age and years of service; 2) There are statistically significant differences in the perception of sources of stress according to sex, age and years of service; 3) There are statistically significant differences in Burnout dimensions by sex, age and years of service; 4) There are statistically significant differences in general health status according to sex, age and years of service and 5) There is a statistically significant relationship between: perception of stress, stressors, Burnout and health status.

2. Methodology

2.1 Participants

The final sample was made up of 427 Primary and Secondary Education Spanish Teachers, 29.7% (N = 127) of the male sex and 70.3% (n = 300) of the female sex, with the following distribution in terms of age: 20-29 = 17.6%, 30-39% = 53.2; 22.9 = 40-49%, 50-59% = 1.2; and years of service: 1-4% = 10.8, = 5-9 30%, 10-14% = 32.6, 15.9 = 15-19%, 20-24% = 4.9, 4 = 25-29%, 30-34% = 1.9 (see **Table 1**).

| | | Male | | Female | | Total | |
|-------------------------|-------|------|------|--------|------|-------|------|
| | | N | % | N | % | N | % |
| Sex | | 127 | 29.7 | 300 | 70.3 | 427 | 100 |
| Age | 20-29 | 23 | 5.4 | 52 | 12.2 | 75 | 17.6 |
| | 30-39 | 67 | 15.7 | 160 | 37.5 | 227 | 53.2 |
| | 40-49 | 27 | 6.3 | 71 | 16.6 | 98 | 22.9 |
| | 50-59 | 8 | 1.9 | 14 | 3.3 | 22 | 1.2 |
| | ≥ 60 | 2 | 0.5 | 3 | 0.7 | 5 | 6.4 |
| | | | | | | 427 | 100 |
| Years of service | 1-4 | 17 | 4 | 29 | 6.8 | 46 | 10.8 |
| | 5-9 | 39 | 9.1 | 89 | 20.8 | 128 | 30 |
| | 10-14 | 36 | 8.4 | 103 | 24.1 | 139 | 32.6 |
| | 15-19 | 24 | 5.6 | 44 | 10.3 | 68 | 15.9 |
| | 20-24 | 1 | 0.2 | 20 | 4.7 | 21 | 4.9 |
| | 25-29 | 7 | 1.6 | 10 | 2.3 | 17 | 4 |
| | 30-34 | 3 | 0.7 | 5 | 1.2 | 8 | 1.9 |
| | | | | | | 427 | 100 |

Table 1. Number and percentage of subjects, sub-totals and totals in terms of sex, age and years of service

Regarding the characterization of age by categories we can verify that the great majority of individuals are in categories 30-39 and 40-49, representing the two classes 76.3% (n = 311) of the same. Teachers over 60 years old represent only 6.4% (n = 5) of the total sample. Regarding the distribution of the sample, for the years of service, we can see in the following graph that the categories between 5 and 19 years of service represent 355 teachers, or 78.5% of the studied population. The least representative class corresponds to the category corresponding to the 30 to 34 years of service (n = 8). This category represents the group of teachers close to retirement.

2.2 Instruments

For the collection of data, a set of questionnaires was administered to obtain information on the analysis variables, in particular: The Perceived Stress Scale (PSS), the Teachers Stress Questionnaire (TSQ), the Maslach Burnout Inventory (MBI) and the SF-36 Health Survey.

Perceived Stress Scale (PSS). Originally elaborated by^[9], it is a self-response instrument designed to measure the degree to which personal life situations are perceived as stress-inducing, that is, it attempts to quantify the level of stress subjectively experienced by the individual, at any given time. The scale has three versions: one with 14 items, another, shorter, with 10 and one, mostly used in telephone interviews, with 4.

Teachers Stress Questionnaire (TSQ). Developed by^[14], the instrument is made up of two distinct parts, the first one being characterized by a question aimed at evaluating the overall stress levels of teachers, on a scale that varies between 0 (no stress) and 4 (high stress). In the second part, 36 items corresponding to different sources of stress placed to the teachers in the teaching process were included, being answered on a "Likert" scale of five points (0 = no stress; 4 = high stress).

Maslach Burnout Inventory (MBI). Created by^[20].

The MBI is an instrument of self-registration with 22 items about feelings related to work, distributed by three dimensions: a) Emotional exhaustion: analyzes feelings of emotional overload and failure to cope with the interpersonal demands of work (for example, "I feel exhausted with my work"), b) Depersonalization: aims to measure "cold", impersonal or even negative responses directed at those to whom services are provided (for example, "I feel I treat some students as if they were impersonal objects"), and c) Personal Realization: used to evaluate feelings of competence and well-being in relation to work (for example, in this job I have achieved many things that were worth it). The frequency with which each feeling occurs in the three areas is evaluated on a "Likert" scale of 7 points, varying between the minimum of 0 (Never) and the maximum of 6 (Every day).

Health Survey (SF-36). Elaborated by^[38], it was developed to measure the health status (physical and mental) of large populations aged over 14 years. It consists of 36 questions divided into eight sub-dimensions that can be grouped into two dimensions (physical health and mental health).

2.3 Procedure

In the sense of collecting the data, we elaborated a letter, which was followed by an interview with the Directors of the selected schools, to state the objectives of the research, describe in detail the type of instruments and request permission for the application of the questionnaires in their institutions. After the informed consent in different schools, we meet with the professors to present the objectives again, request their collaboration and give the clarifications for filling out the questionnaires. These were answered individually, voluntarily and anonymously, at school. It took 40 minutes to complete it. In addition to the questionnaires, a socio-professional characterization form (sex, age and years of service) was requested. The data collection was done in a single moment.

The questionnaires were completed voluntarily during a classroom session.

Response

Sheets given to each subject were previously assigned an identification number, and their responses were later processed by computer. The instructions were read aloud, emphasizing the importance of not leaving any question unanswered. The researchers were present during administration of the tests to answer any questions and ensure independent administration on the part of the participants.

2.4 Data analyses

The treatment of the data was carried out using a statistical research program widely used in the social and psychological sciences (SPSS-15).

The statistical procedures used were: frequencies, percentages, means, standard deviations, Chi-square test, Student's t test, Pearson's correlation coefficient and ANOVA. Because the high sample size of the study, the Student's t test and the F ratio can erroneously detect statistically significant differences. For this reason, we resorted to the index d (typified mean difference) proposed by Cohen^[8], which allows us to assess the magnitude or size of the effect of the differences found. This index is calculated by quoting the difference between the average scores of the classified groups

and the estimated standard error. Its interpretation is simple: size of the effect small / low (0.20 - 0.49), moderate (0.51 - 0.79) and high / large ($d \geq 0.80$). The independent variables analyzed were sex, age and years of service. The dependent variables studied were perceived stress, sources of stress, Burnout and general health status.

3. Results

Relationship between socio-professional variables

When the distribution of frequencies and percentages of sex with age are related by class, we verified in the sample that teachers in both sexes present a higher frequency in the category of 30 to 39 years and their lowest frequency in the category of 60 years or more. Using the chi-square test, we associated these variables and did not find significant differences ($\chi^2 = 0.97$, $p > .05$), which leads us to conclude that sex and age do not show a significant relationship between them.

When sex is related to years of service, we find that the distribution of both teachers (men and women) is concentrated in the four categories between 5 and 19 years of service, and men have the lowest frequency in the category of the 20 to 24 years of service ($n = 1$) and the women in the category of 30 to 34 years of service ($n = 8$). It is emphasized that the data of the sample corresponds to the characteristics of a more or less stable teaching staff. However, when we analyzed the association of these variables, we found a significant association between them ($\chi^2 = 10.73$, $p < .05$).

Relationship between amount of perceived stress and socio-professional variables

We have checked whether there were any inferences between the amount of perceived stress and the independent variables in our sample. Results show that the teachers' perception of stress showed statistically significant differences between the sexes ($p < .05$). The magnitude or size of the effect of these differences was moderate ($d = -0.61$) and the women presented higher levels of perceived stress than their colleagues.

Regarding the association between age and amount of perceived stress, we can verify that no significant differences were found. However, we can see that in this variable the perceived stress is higher in teachers with more advanced ages (categories 40-49), while the remaining categories have similar values.

The relationship between the perception of stress according to the years of service, show that the categories of teachers with 10-14 and 20-24 years of service were those who presented higher values of perception and the one with the lowest levels of stress was the category 5 to 9 years of service, corresponding to the category of teachers who are under contract. However, we can verify that there is no statistically significant association between these variables ($p > .05$).

Perception of stress in the exercise of the teaching profession

The analysis of the results has allowed us to verify that when teachers are questioned in general, about the level of stress that their profession provokes them, we verify that, in general terms, the performance of the teaching profession generates enough or much stress of 38.8% ($n = 167$) of teachers and that in 11.7% ($n = 50$) causes no or almost no stress. The remaining percentage is representative of teachers in which the profession only causes some stress.

When we analyzed this question in relation to the independent variables, we verified that in terms of sex we found statistically significant differences ($p < .05$), however, the effect size was small ($d = -0.30$), showing the teachers higher levels of stress, in general, compared to the performance of their function.

Regarding the variables age and years of service, there were no statistically significant associations. However, we can see from results obtained that the perception of stress in general increases with increasing age.

Regarding the relationship of stress reported in the performance of the teaching function with years of service, there is also a slight increase, although with oscillations, with categories 20-24 and 30-34 where the largest were verified stress levels.

In an analysis of the sources of greatest stress in the exercise of the profession, corresponding to the second part of the questionnaire, we observe, in decreasing order, that the problems related to the inappropriate behavior / indiscipline of the students are clearly highlighted, in particular, indecent behavior of students, continuous bad behavior, lack of acceptance of authority and difficult behavior problems.

However, the sources on which teachers experienced less stress are related to differences in abilities or low capacities of the students. The results that lead us to believe that teachers are not dissociated from their main function is to teach.

When we analyze the ranking of factors, in average terms, we observe, in decreasing order, that the factor "inappropriate disciplinary policies" appears first, that the factor "status of the teaching career" appears in second place and that the factor "inappropriate behavior / student indiscipline" appears only in the third place. Finally, the factor "pressures in time / overwork" appears as the least stress causes in teachers. These data, to our knowledge, reveal that the recent alterations in the status of the teaching profession and the growing disavowal of the teacher associated with ineffective disciplinary policies, constitute the factors that contribute most to the teaching class to present high levels of stress.

Relationship between the sources of stress and the socio-professional variables

Regarding the relationship of the independent variables with the teachers' perception of stress in the performance of their work, it was observed that in terms of sex, the factors "inappropriate behavior / student indiscipline", "inadequate disciplinary norms", "time pressures / overwork", "different abilities and motivations of the students" and "status of the teaching profession" are perceived by the professors (men and women) with statistically significant differences. The exception was found for the "paperwork / administrative work" factor that did not show significant differences in terms of sex.

Female teachers, in general, have higher stress levels than their peers on all factors.

When analyzing the perceived stress in the performance of the teaching activity as a function of age, in factorial terms, we verify that only the aspects related to the behavior "inadequate / indiscipline of the students" have a significant statistical relationship ($p < .05$). In this factor, the differences are between the ages (40-49) and (50-59), with a $p < .05$; $d = -0.66$. Therefore, particularly at these ages, the problems of discipline and behavior are perceived in a significantly different way.

Regarding the years of service and their influence on the perception of stress in teachers, we can observe that there is no statistically significant relationship.

However, we can verify that the average of the "inappropriate behavior / indiscipline of the students" is, on average, higher than that of the other factors. Likewise, we can observe that the category of teachers with 25-29 years of service, on average, perceives the sources of stress as less threatening. And, on the contrary, the category 30-34 years of service, is that which evidences, on average, higher levels of stress in the face of the demands of the teaching function.

Relationship between Burnout and socio-professional variables

When we related Burnout to sex, we found statistically significant differences in the emotional exhaustion dimension ($p < .05$, $d = -0.39$). In the remaining dimensions, no significant differences were observed. Female teachers reveal greater emotional fatigue, less professional accomplishment, but, on the other hand, lower levels of depersonalization.

When we related the Burnout with the age variable, we verified that there are also significant differences in the dimension emotional exhaustion ($p < .05$). In the emotional exhaustion dimension, significant differences were found between categories 20-29 / 60 or older ($p < .05$; $d = -0.93$). The results showed that this dimension, in average terms, increases as age advances, this means that teachers feel more aggravated with their profession as they get older.

When we analyze Burnout in terms of years of service (see Table 2), we find again statistically significant differences in the emotional exhaustion dimension. These differences occurred between categories 5-9 / 30-34 ($p < .05$, $d = 1.22$) and categories 1-4 / 30-34 ($p < .05$, $d = -1.17$). Therefore, the differences are mainly between the categories of teachers who are in the beginning of career and those who are at the end of their career.

Overall, teachers' feelings of exhaustion also increase with years of service, although with two exceptions, the first in the 5-9 years of service (lower levels), and the second in the category from 25 to 29 years of service. The category that obtained the highest values of emotional exhaustion was the category from 30 to 34 years of service.

The personal accomplishment presents some similarity, with a slight variation in relation to the general average,

except for the category of 25 to 29 years of service that obtained the lowest score. The highest score found in the dimension of professional performance was obtained in the category of 16-19 years of service.

The depersonalization dimension has lower levels of stress in category 5-9 and the highest levels in category 20-24 years of service.

| | 1-4 | | 5-9 | | 10-14 | | 15-19 | | 20-24 | | 25-29 | | 30-34 | | Statistical Sig. | |
|-----------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|----------------------|-----|
| | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD | M | SD | F _(6,420) | p |
| EE | 2.24 | 1.16 | 2.21 | 1.12 | 2.52 | 1.25 | 2.54 | 1.38 | 2.98 | 1.64 | 2.61 | 1.32 | 3.56 | 0.91 | 2.88 | .01 |
| PA | 4.45 | 0.92 | 4.50 | 0.83 | 4.30 | 0.87 | 4.58 | 0.86 | 4.33 | 1.04 | 4.03 | 1.27 | 4.43 | 0.92 | 1.47 | .18 |
| D | 0.80 | 0.83 | 0.62 | 0.72 | 0.78 | 0.93 | 0.78 | 0.92 | 0.98 | 1.06 | 0.84 | 0.92 | 0.90 | 0.65 | 0.83 | .54 |

Table 2. Means, standard deviations and statistical significance of the dimensions of the Burnout according to the years of service

Note: M = Mean, SD = Standar Deviation, Statistical Sig. = Statistical Significance. EE = Emotional exhaustion, PA = Personal accomplishment, D = depersonalization.

Relationship of teachers' health status and socio-professional variables

In relation to teachers' health status with socio-professional variables, we verified that, in general, there are some significant relationships in the variable sex, while in the remaining variables, only some sub-dimensions were verified.

When analyzing the variance between the health status of teachers according to sex, we found significant differences among all the sub-dimensions. Therefore, it can be affirmed that men have a better state of health in all the factors.

The teachers' health status presents a statistically significant relationship with age, in three sub-dimensions of the physical dimension and only in one in the mental dimension, that is, physical function ($p < .05$); in pain ($p < .05$); in general health ($p < .05$); and in the social function ($p < .05$). Likewise, we can observe that the category 50-59 years of age is the one that presents lower values in all dimensions.

When an analysis of the significance is made in terms of sub-dimensions, we observe that the significant differences between the categories (20-29 / 50-59) and (30-39 / 50-59) are given in all sub-dimensions. And also, in the physical function there are also differences in the categories (20-29 / 40-49) and (30-39 / 40-49); and finally, in the social function, significant differences were found between the categories 20-29 / 60 or more years of age.

Results between teachers' health status and years of service showed a significant relationship in the sub-dimensions: physical function ($p < .05$), pain ($p < .05$), health general ($p < .05$), social function ($p < .05$) and emotional performance ($p < .05$). The first three correspond to the physical dimension and the last two correspond to the mental dimension.

In summary, when analyzing the relationships with the independent variables, we find in all of them four sub-dimensions that present significant associations, forming part, three of them, of the physical dimension (physical function, pain and general health) and the rest, mental dimension (emotional performance).

Analysis of the relationship between variables: amount of perceived stress, sources of stress, burnout and health status

In general, the correlation between the perception of stress and stress factors was positive and significant ($p < .05$) in all factors. The correlation value was low, except for the relationship between the amount of perceived stress and inappropriate behavior / indiscipline and the pressures of time / overwork, in which a moderate correlation was found. These data lead us to conclude that the amount of perceived stress is related to the sources of perceived stress. That is, feelings of stress are influenced by the sources of stress and vice versa.

When the perception of stress is related to Burnout, we see that there is a positive relationship, of moderate intensity, with the emotional exhaustion dimension; a positive relationship, of low intensity, with depersonalization; and a negative relationship, of low intensity, with personal accomplishment. In all associations, a statistically significant p value ($p < .05$) was observed. This means that the amount of stress is directly related to the levels of emotional exhaus-

tion and depersonalization and, inversely, to the levels of personal accomplishment.

When correlating the sub-scales that characterize the teachers' health status with perceived stress, we can see that there are negative relationships ($p < .05$), but with a weak intensity among all the sub-dimensions that make up the physical dimension, and with a moderate intensity with the sub-dimensions of the mental domain, with the exception of the mental health in which a high relation was established. These results emphasize the influence of stress on the perception of mental health status.

When the stress factors are related to each other with a level of significance lower than .01, we find that the results highlight the interdependence between stress factors, with particular importance between inappropriate behavior / indiscipline with inappropriate disciplinary policies and with different abilities of students.

When relating the subscales of health with stress factors, we verified that between the physical performance and the factors "inadequate disciplinary policies" and "status of the profession" no relationship was found. With the other factors, this sub-dimension established a negative correlation, with a low level of intensity, at a level of significance lower than .01, except for the factor "administrative work" in which the level of significance was moderate ($p < .05$). General health, for $p < .01$, is negatively related to all stressors.

In general, when teachers' health status is better, lower the levels of stress are perceived and vice versa.

4. Discussion and conclusions

Contrary to the study by^[26], in which no statistically significant inference was found between the independent variables and the amount of perceived stress, in our research we found significant differences between the sexes ($d = -0.61$), with the women teachers presenting higher levels of perceived stress than his colleagues. These differences in results may be because the number of subjects in our study was significantly lower. However, this confirms the opinion of other authors that women, in addition to their professional involvement, tend to be heavily involved in other activities, including their maternal and family roles^[6].

Regarding the relationship of the amount of stress perceived with age and years of service, the results confirmed those found by those researchers. Thus, in relation to the first hypothesis, we can say that it was only partially confirmed, that is, in the variables age and years of service, no significant differences were found, but in the sex variable we found statistically significant differences.

Like^[13], results about the perception of teaching as a high stress generating activity, were lower than those found by^[32], who in their sample found levels of very or extreme stress in 54% of the teachers surveyed. The levels of global perception of stress that we found were very close to those found by those researchers, as they only varied by 1.2 percentage points. In their research,^[13] found values of 40% of quite or very stress, whereas we found values of 38.8%. This similarity can be explained, perhaps beyond the questionnaire, by the socio-geographical proximity, in which the questionnaires were carried out. On the other hand, it should be noted that these data do indeed reveal a certain amount of stress which cannot be less worrying and confirms that teaching is in fact one of the most provocative occupations of high levels of stress, as well as the results obtained in the literature, which are confirmed by several studies^[1,4,5,13,15,19,23,29].

In summary and considering the results obtained, we can conclude that the second hypothesis has only been confirmed in relation to sex. As for the variable age, the hypothesis was partially confirmed (inappropriate behavior / indiscipline). And finally, in relation to the variable years of service, the same has not been confirmed.

On the other hand, in the different dimensions of Burnout syndrome the teachers of this sample are not different from the others, either nationally or internationally, that is, reveal considerable levels of emotional exhaustion and depersonalization and good levels of professional achievement^[2, 32]. Therefore, these results corroborate the results that lead to affirm that the performance of the teaching function remains a profession in which people feel fulfilled, but that causes great emotional exhaustion and, to a lesser degree, distance or professional distancing (depersonalization).

Regarding the relationship between the independent variables and Burnout, we verified that there is a significant association between the emotional exhaustion sub-dimension with all variables (gender, age and years of service). In the remaining dimensions no significant inferences were observed. These facts only partially confirm the third hypothesis.

In terms of sex, teachers, on average, show higher levels of emotional exhaustion^[11,13,26], lower levels of professional performance and lower levels of depersonalization^[13,21,26], suggesting a greater tendency of men towards the professional and emotional distancing towards students, eventually becoming less sensitive to the problems they present and the effective help to their school and personal difficulties^[13], using this cynicism as a way of coping.

Regarding the variables age and years of service, in general, as they go on in time, they provoke higher levels of emotional exhaustion in teachers^[11] and depersonalization^[11], while professional accomplishment remains more or less stable^[11,26].

When we analyze the relationship between the health status of teachers with independent variables, we verify some discrepancies and similarities with some studies. However, we can conclude that the fourth hypothesis is confirmed in its entirety about the sex variable and is partially confirmed in relation to the variables of age and years of service.

Regarding sex, ^[1]found significant inferences in somatic symptomatology, presenting female teachers with more somatic symptoms than teachers. Also^[13] point out that, at the level of physical health indicators, although with different assessment instruments, teachers should be assigned more problems and physical symptoms experienced in the last three months. Our study to report significant differences in all sub-dimensions, comes, in some way, to confirm that teachers present in terms of health status worse health indexes, both from the somatic point of view, and mental, facts confirmed by^[35], although in teachers of a higher level and not in all the sub-dimensions.

Regarding the relationship between the health status of teachers and age, there seems to be a greater tendency towards physical symptomatology, presenting significant evidence, especially in three of the four sub-dimensions (general health, physical function and pain while that in the mental dimension only significant differences were found in the social function sub-dimension).

Regarding the study of the relationship between the health status of teachers and the years of service, we also verified some predominance of the physical dimension, presenting significant differences in the same subdimensions, while, in the mental dimension, they also found significant differences in emotional performance. In summary we can conclude that teachers in a general way, in terms of age and years of service have greater differences in terms of health in the physical domain and that teachers are those whose state of health is most affected both from the point of physical or mental view.

Regarding the fifth hypothesis, the results confirmed the relationship between perceived stress and sources of stress, highlighting the relationship between the variables of perceived stress, indiscipline behavior and time pressures, leading us to believe that the pressure of time or overwork as well as acts of indiscipline or inappropriate behavior are felt more acutely by teachers who show higher levels of stress and vice versa. Contrarily^[26], found no significant influence between these variables.

Perceived stress was also a predictor of Burnout^[26], that is, high stress levels establish a positive relationship, especially with the dimensions of emotional exhaustion and depersonalization^[13,24,25,32] and in the opposite direction to personal realization^[2,13,32].

These data suggest that emotional exhaustion and depersonalization (although with a lesser interdependence) have a positive relationship with the sources of stress, especially the lack of discipline, the disavowal and the disinterest of the students. On the other hand, the more satisfied teachers feel, the less they are influenced by the potential sources of stress inherent to the performance of their function.

As for the relationship between health and perceived stress of teachers, we found that good health in general are associated with lower levels of stress^[16-18]. However, there is a greater variance between the variables perceived stress and sources of stress as well as Burnout with the mental dimension of teachers. The results confirm that stress and Burnout, especially the emotional exhaustion subscale, are determinants in the perceived subjective health loss of teachers^[32,24,25].

However, there are some limitations in this research. First, the data from this study were obtained through self-report measures that may lead to results. It would be desirable to supplement data collection with other measures of directly observable outcomes, as well as to consider the existence of other variables, unknown or unknown, controlled by the study, that explain the data found empirically or that may interfere with them.

Another limitation of this study is that some groups of participants, for example, 60 years or older, are small. Considering this assumption, it may be risky to establish generalizations of the results for these subjects. Future investigations should confirm the results of this study with larger samples from this group of individuals.

5. Future research

As future research lines based on the results obtained, we intend to consider other study variables, on which we collect data to verify if there are differences between the perception of stress, the Burnout, the number of weekly hours, the number of students and the school in which it is taught.

Fundamentally, within a healthy lifestyle, implement a program of adherence to the practice of regular physical exercise in teachers, accompanied by the development of self-efficacy skills and stress control, as well as suggest measures to be taken by the guardianship to encourage these practices and reduce the problem of stress.

From the present work different implications can be established. The first relates to the fact that stress and Burnout are present in the organizations studied and are unavoidable but can be reduced.

Specifically, when stressful situations are difficult to control by the teacher and the guardianship, an adequate prevention strategy can go through the practice of physical exercise and by improving teachers' self-efficacy, physical exercise programs, stress management programs, for example, by developing prevention / training plans that enhance the capacity for stress management. Our study suggests that high levels of overall self-efficacy may help teachers confront stress more effectively, lower Burnout levels, and influence their health. Its implementation and enhancement in the performance of teaching activity is emerging as a challenge to overcome.

Finally, it is possible to establish a teacher profile able to cope with the rapid and constant social, and particularly educational, changes as well as the new stressful requirements that are coming. It is characterized by being male, aged between 20 and 49 years, with a teaching experience of about 5 to 29 years and with a good state of physical and mental health.

Ethics statement

All procedures performed in studies involving human participants were in accordance with the ethical standards. Informed consent was obtained from all individual participants included in the study.

Conflict of interest

The authors declare they have no conflict of interest.

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